

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed Project is located on property owned by the State of California and administered by the California State Lands Commission (CSLC). The property is located offshore of the city of Carlsbad, in northern San Diego County, California.

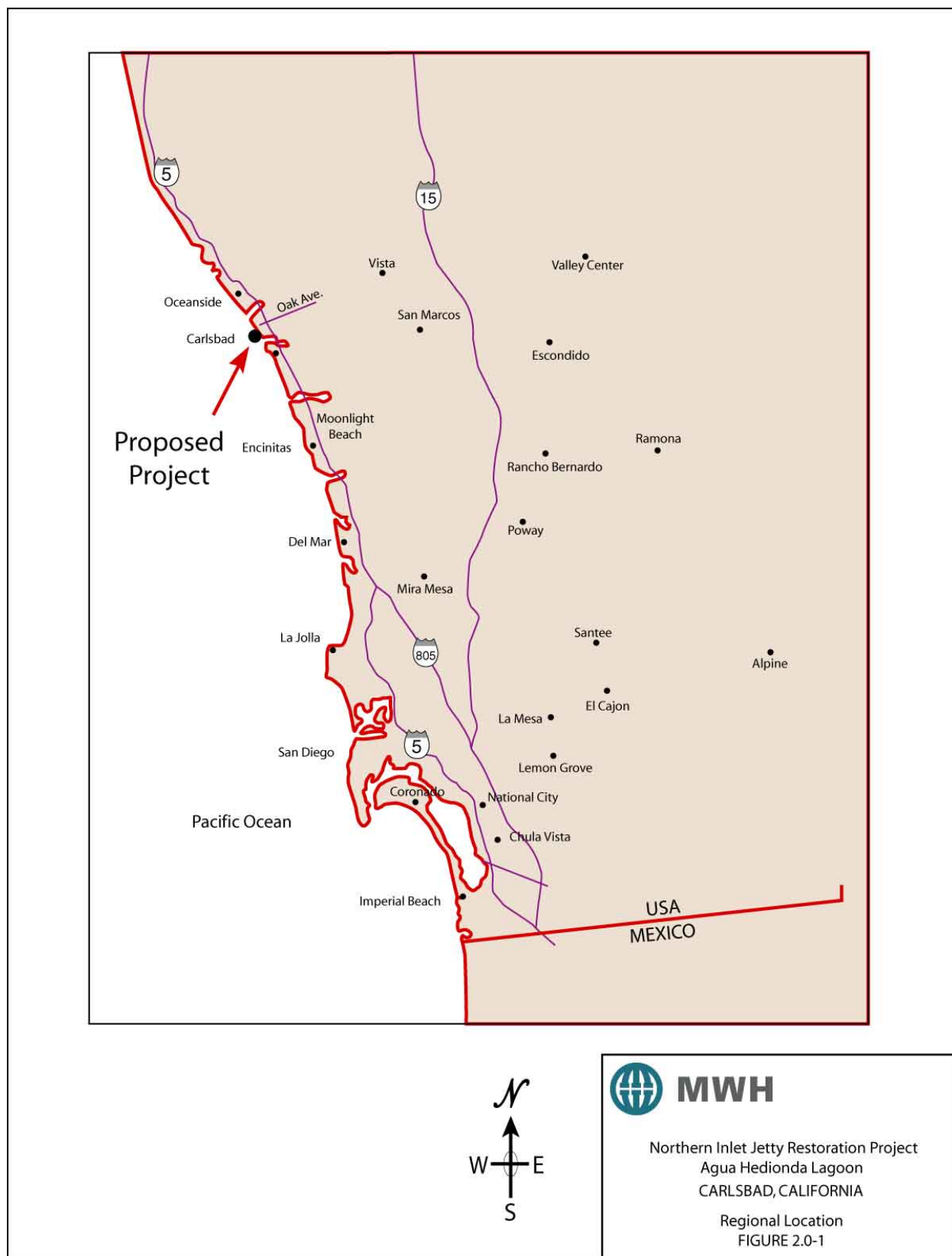
Figures 2.0-1 to 2.0-5 show the regional and project site locations, an aerial view of the proposed project site, Inlet channel lease site, and layout of the proposed Project.

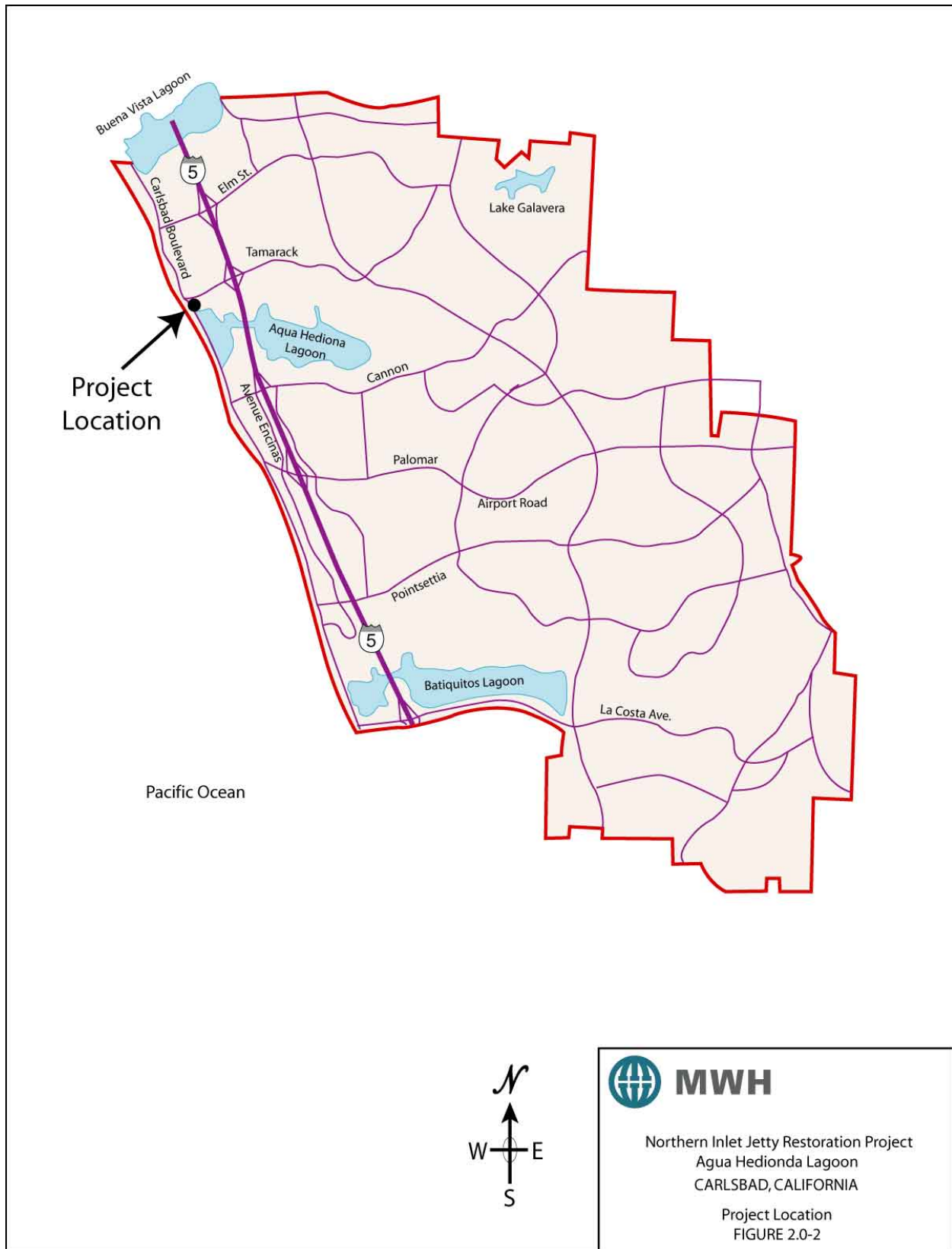
Background

The construction of the first unit of the Station, completed in 1954, included the dredging of Agua Hedionda Lagoon to assure a reliable and economical source of cooling water. The dredging enhanced tidal flow in the Lagoon. The Station can require more than 800 million gallons per day of seawater (almost 600,000 gallons per minute) at peak capacity for cooling purposes. Seawater enters the Lagoon through the inlet channel created and stabilized by inlet jetties. Seawater used by the Station for cooling is discharged through a set of jetties, known as the outlet jetties, located at the southern end of the Lagoon.

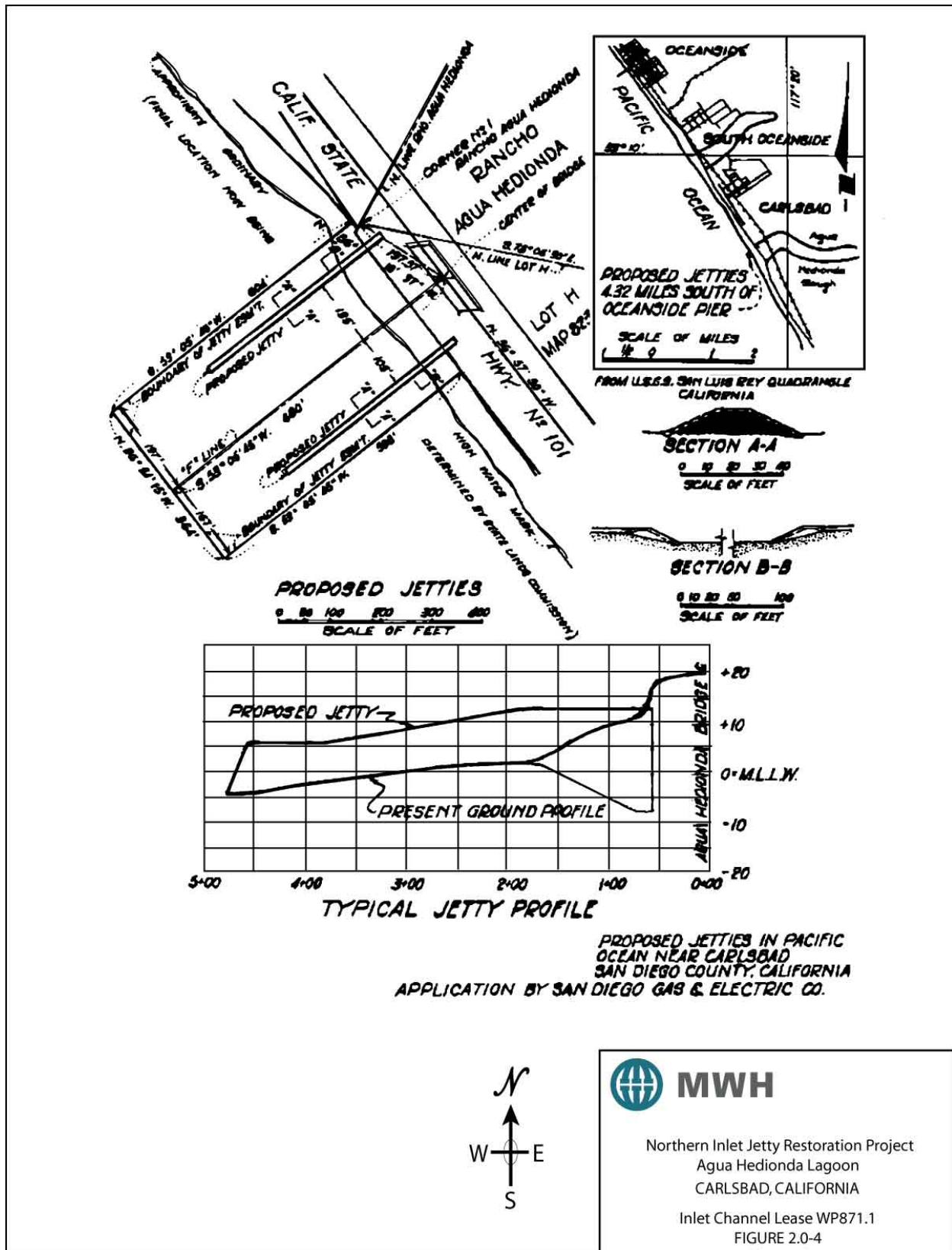
In 1954, a major restoration project was initiated at Agua Hedionda Lagoon. More than 4 million cubic yards of accumulated sediments were removed from the three basins (Inner, Middle and Outer) of Agua Hedionda Lagoon and placed into the Oceanside Littoral Cell. The dredged materials were placed on the beach directly seaward of the Lagoon. This led, initially, to the beach being extended seaward by approximately 395 feet. The two rock jetties were constructed across the deposit to stabilize the inlet channel and to assure adequate tidal flow into the Lagoon. The sediment deposit later receded, and the jetties were shortened by storm action. A fundamental component of Station construction, the Lagoon restoration effort nonetheless marked a significant achievement and turning point in the history of Agua Hedionda Lagoon.

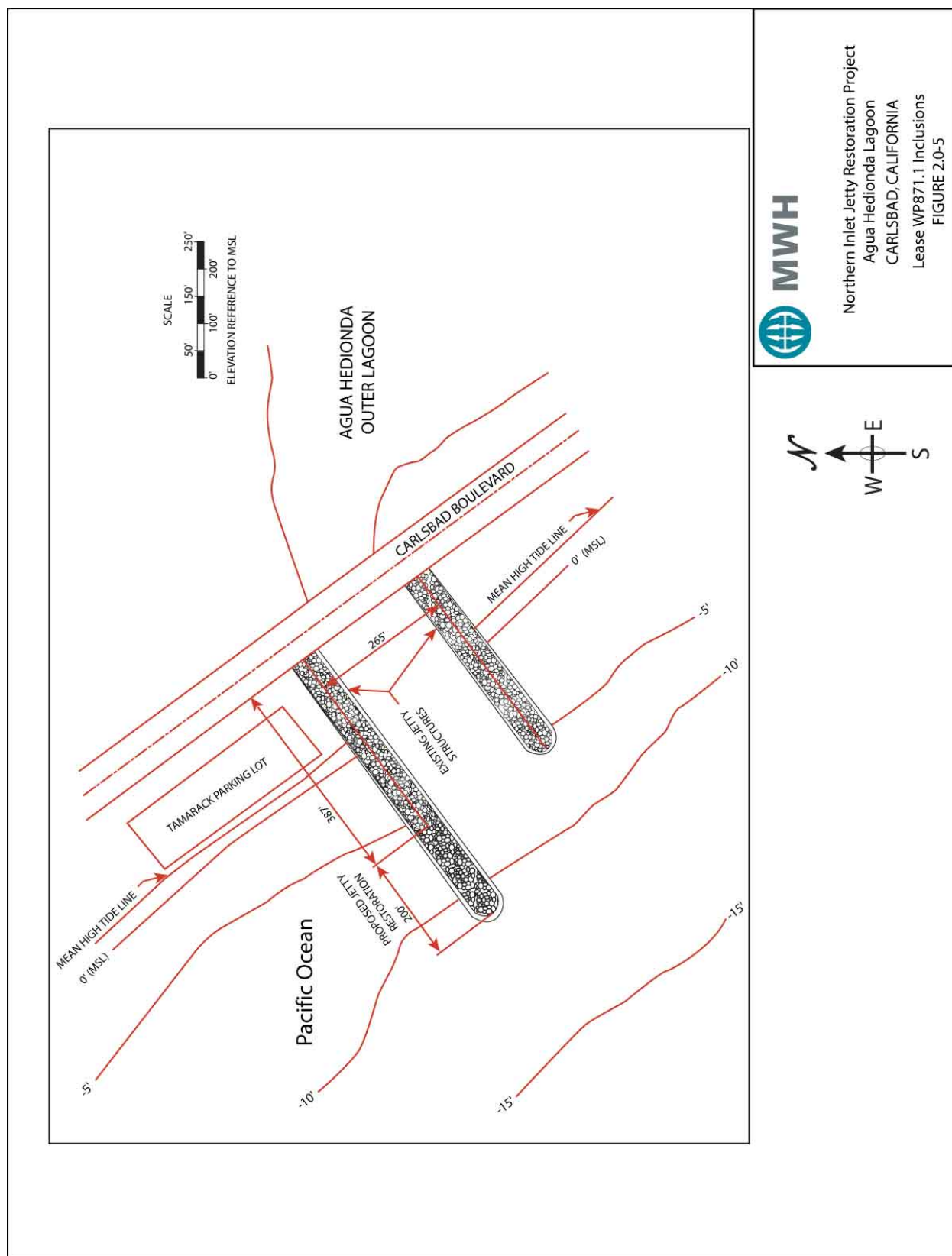
The initial Agua Hedionda Lagoon restoration project was designed to enhance the tidal flow in the Lagoon, thereby ensuring the Station access to an adequate volume of seawater for cooling purposes. Stabilizing the inlet channel and ensuring adequate tidal flow required the placement of two rock jetties at the mouth of Agua Hedionda Lagoon.











Though strategically located, the original jetties were neither designed nor built to today's engineering or construction standards. Over a period of time, strong storms destroyed the outer portions of both jetties. Although accessible migrated stones were recovered and some stones replaced within the jetties, neither jetty was ever restored to its original length.

As described above, sedimentation is not a new concern at this Lagoon. Historically, accumulated sand in Agua Hedionda Lagoon has been removed through periodic maintenance dredging. Due to routine maintenance dredging of the Lagoon, the sand that accumulates in the Lagoon is regularly put back into the littoral cell. However, during the period of time the sand is captured in the Lagoon, the sand is effectively removed from the longshore sediment transport system. The jetty restoration could increase the amount of sand in the littoral system downcoast of Agua Hedionda Lagoon between dredge events by increasing the rate and volume of sand bypassing the Lagoon mouth. Thus, reducing the rate of sedimentation in the Lagoon is expected to provide a benefit to downcoast cities.

The operation of the Station exacerbates the natural sedimentation problem in Agua Hedionda Lagoon because: (1) the pumping of cooling water from the Lagoon increases the force of the flood tides in moving sediment into the Lagoon; and (2) the discharge of the cooling water directly to the ocean, via the southern inlet, decreases the force of the ebb tide in clearing sediment from the Lagoon itself.

Since 1954, the Lagoon management strategy at Agua Hedionda has consisted of frequent and regular maintenance dredging events to ensure adequate tidal flow to maintain the overall lagoon health. Today, the Lagoon is a prominent community resource and asset. The Lagoon currently supports numerous land uses and activities, all dependent upon a healthy Lagoon, including the Station, the Hubbs-Seaworld Research Institute, an Aquaculture farming and research venture, a YMCA camp for children, commercial water sports entities, a residential boat harbor, private residences, and many other uses including kayaking, fishing, water-skiing, and boating.

The maintenance dredging program in place at the Lagoon is regarded as a highly successful operation; however, based on current data and future projections, the current Lagoon management strategy may be inadequate for coping with the increased Lagoon sedimentation associated with longer-term regional beach nourishment strategies. Therefore, approval of the proposed Project is being sought to maintain Lagoon health as

part of a more comprehensive Lagoon management strategy and to reduce the need for dredging by the Applicant.

2.2 CSLC JURISDICTION

The Applicant has an easement (PRC 871.1) to maintain the existing northern jetties from the California State Lands Commission (CSLC or Commission). The easement covers the two northern inlet jetties, along with the submerged tidelands and portions of the inlet channel that lie immediately adjacent to the two jetties. The easement was issued on December 14, 1953 for a term of 49 years and expired on December 13, 2002. The Applicant's continued use and maintenance of the two jetties, inlet channel and submerged tidelands in support of the Station cooling water operations is subject to the Commission's issuance of a new right of way easement, which will include construction and maintenance of a 200-foot restoration of the most northerly inlet jetty.

2.3 LAND REQUIREMENTS

2.3.1 Rights-of-way and Additional Construction Work Areas

The restored northern inlet jetty would include an area 200 feet long and between 55 to 70 feet wide and rising about 10 feet from the bottom, within the original historical footprint of the inlet jetty.

During the three-month construction period (off-season winter months), the Carlsbad State Beach (Tamarack) parking lot would be used and would be closed to public use. Construction activities would require closure of the beach within 100 feet north of the jetty and of the ocean area extending 100 feet seaward from the tip of the extended jetty. A fence would control access on the beach and buoys and anchor blocks would mark the closed area on the seaward end.

2.4 CONSTRUCTION PROCEDURES

Restoration of 200 feet of the north inlet jetty would be carried out over a 12-week period during the off-season winter months. The construction period would be divided into mobilization and site preparation, construction, and demobilization, as briefly described below.

2.4.1 Mobilization and Site Preparation

Mobilization of personnel and equipment to the project site and site preparation is expected to occur over a two-week period and will include the following. The seaward

limits of the project area will be established with placement of warning markers, such as buoys, distributed to delineate the work area within a 100-foot buffer from the tip of the extended jetty. Small craft, probably from a local port such as Oceanside, would place the warning marker buoys and anchor blocks around the jetty work area 100 feet from the tip of the jetty. During demobilization the marker buoys and anchor blocks would be removed. Placement and removal of markers would each occur over a one-day period each. Typical 6-foot high construction chain link fencing would be placed on the northern beach seaward to control public access to the construction site within 100 feet north of the jetty. The fencing would be signed to alert the public to stay out of the construction work area. The Carlsbad State Beach (Tamarack) parking lot (approximately 124 spaces) would also be fenced and signed to indicate closure of the parking lot, the period of closure, and providing information on alternative parking locations. A construction trailer would be moved to the construction area.

Access routes through the parking lot and to the jetty crest would be prepared as well as equipment refueling and maintenance areas. A temporary dirt ramp leading to the top of the jetty would be placed to provide access to the jetty crest by a skip loader and small bulldozer. Clean fill would be imported to the site and used to prepare the temporary dirt ramp. Preparation of the temporary ramp is expected to take up to two days to complete.

Construction equipment would be transported to the site and stored at the Tamarack parking lot construction site during non-working hours. Construction equipment would include:

- One skip Loader for moving rock at the construction site;
- One mobile crane for lifting and placing rock in the jetty restoration area;
- One D-6 bulldozer for site preparation;
- One water truck for dust control; and
- Six 19-ton dump trucks for hauling rock from the quarry source to the construction work site.

In addition, a construction trailer and tool shed would be placed within the construction area.

Up to a maximum of 20 workers, including equipment operators and supervisors, would be on site, depending upon the activities.

The contractor would be required by contract to assure all equipment and vehicles are in good working condition, equipped with manufacturer's specified noise and emission controls, and properly maintained during all phases of the construction. In addition, the contractor would be required to minimize equipment idling time when not in use to help limit emissions.

The Applicant will require the contractor to prepare a Waste Management Plan (WMP) that will be submitted to the Applicant and staff of the CSLC for review and approval. In the WMP, the Contractor will identify hazardous materials that will be brought onto the construction site, hazardous waste that may be generated, management of hazardous materials including wastes, disposal of wastes including manifesting process, as applicable. Wastes will be transported off site to an approval disposal facility. Refueling of equipment most likely will occur at the construction site. Procedures for refueling will be defined and approved by the Applicant and the Regional Water Quality Control Board through the National Pollutant Discharge Elimination System (NPDES). A NPDES permit for Construction Activity will be obtained from State Water Resources Control Board for construction activities and all required Best Management Practices will be followed as applicable to the construction site.

2.4.2 Construction

Restoration of 200 feet of jetty would occur over a 12-week period.

Materials for the jetty construction will come from local quarries, as described below. Approximately nine tons of quarry rock will be used to restore the 200 feet of jetty. The jetty restoration will progress in three to four sequential 10-foot sections.

The restored jetty footprint will be approximately 55 to 70 feet wide at the bottom, 23 feet high at the end of the jetty, with a typical width of 16 feet at the top. The side slopes will be 2:1. Quarried rock will be placed in stages during construction. Three types of quarried rock will be used in the jetty. Quarried rock type C will be placed at the bottom of the jetty, followed by placement of quarry rock type A over the foundation of type C rock, and type B stone placed on the jetty surface and side slopes. Quarry rock would be transported to the construction site by six 19-ton, double-loaded, semi-end dump trucks and the rock would be stockpiled in the Tamarack parking lot construction area. Construction would consist of transporting the quarry rock by front-end loader along the jetty crest and placement of the quarry rock by a mobile land-based crane. It is estimated that roundtrip truck trips will peak at 30 trips per day during the restoration period.

The contractor would be required to implement the following emissions control measures during the construction of the Project:

- Water all active construction areas at least twice daily;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at the construction site;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; and
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

A potential source of the stone assumed to be used in the construction of the jetty is the South Twin Oaks Quarry located at 720 South Twin Oaks Valley Road, San Marcos, California. The haul route to/from the quarry is as follows:

- From the quarry, head north on Twin Oaks Valley Road to Highway 78;
- West on Highway 78 to Interstate 5;
- South on Interstate 5 to Tamarack Avenue; and
- West on Tamarack Avenue to Tamarack Beach Parking Lot.

The contractor would be required to adhere to this route to assure noise and emissions are limited in residential areas and impacts avoided.

2.4.3 Demobilization

Demobilization is estimated to occur over a two-week period. The temporary access ramp to the jetty would be removed, the area returned to pre-construction conditions, and the dirt trucked off site to an approved disposal area. The warning marker buoys and anchor blocks along the jetty would be removed over a one-day period by a small craft. Fencing along the beach and at the Tamarack parking lot site yard/staging area would be removed and the area returned to pre-construction conditions. The equipment, construction trailer, and tool shed would be transported off site. The equipment routes through the Tamarack parking lot would be returned to pre-construction conditions, as well as any other areas disturbed at the Tamarack parking lot. The construction haul route would be swept, as needed, to return the route to pre-construction conditions.

2.5 ENVIRONMENTAL COMPLIANCE INSPECTION AND MITIGATION MONITORING

The Applicant would implement the Mitigation Monitoring Program (MMP), as required and overseen by the CSLC.

2.6 OPERATION, MAINTENANCE, AND SAFETY CONTROLS

The Applicant would install and maintain the required navigational aids and repair the jetty, as necessary, if damaged. There are no other operation, maintenance, or safety controls necessary for the proposed Project following its reconstruction.

2.7 FUTURE PLANS AND ABANDONMENT

The Applicant intends to maintain the proposed Project through the life of the Station. There are no current plans to abandon either the Station or the proposed Project features.

2.8 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS

The Applicant must obtain CSLC approval for a new right of way easement, which will include construction and maintenance of a 200-foot restoration of the most northerly inlet jetty and all other related facilities as described herein. The Applicant must also obtain California Coastal Commission approval for an amended Coastal Development Permit, and must obtain Section 401 Water Quality Certification from the Regional Water Quality Control Board, San Diego Region. In addition, the Applicant must obtain ACOE approval for authority to construct under Sections 10 of the Rivers and Harbors Act and Section 404 of the Federal Water Pollution Control Act, as determined necessary by the ACOE.